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3COM CORPORATION 350 CAMPUS DRIVE MARLBOROUGH, MA 01752-3064			DUONG, FRANK	
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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/662,158	Applicant(s) POULTER ET AL.	
	Examiner Frank Duong	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-40 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 and 11 is/are allowed.
- 6) ☒ Claim(s) 12-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is a response to communications dated 02/21/06. Claims 10-40 are pending in the application.

Claim Objections

2. Claims 12, 27, 33 and 38 objected to because of the following informalities:

The above claims commonly recited the term "adapted for". Such the term should be changed to --configured to--.

A rationale for the objection of the above claims is that such terms have a tendency to suggest or make the limitation following optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. See MPEP § 2111.04.

Moreover, claims 12, 27 and 33 also commonly recite the term "which can provide". It should be changed to --which provides-- to make certain the following limitation beyond any doubt.

Claim 38 recites the term "can bypass". It should be changed to --bypass-- to make certain the following limitations beyond any doubt.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 12-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per **claim 12-14**, there is no support for the newly added limitation of *"multiplexers which can provide a data path for packets from each of the said ports to either of the others and which are responsive to **point-to-point control messages** separate from said data packets and received from any network communication units coupled to said ports to provide for bypassing of a port to which an active communication unit is not coupled"* in the original specification. In accordance with the specification, on page 16, in reference to Figs. 11-13, it is disclosed *"message fields"* for control messages between either T-piece and a cascade module or vice versa. On page 24, lines 1-25, it is disclosed the "Active Bit" in the control messages and its functions to allow software to override the LinkOK status and to allow a T-piece to signal that it can no longer participate in the data path. From the disclosed features, the claimed limitation of *"point-to-point control messages received from any network communication units coupled to said ports to provide for bypassing of a port to which an active communication unit is not coupled"*, recited in claims 12-14, cannot unambiguously derive to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 12-13, 15-16, 19-20, 23-35 and 38-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Gupta et al (USP 5,113,391) (hereinafter "Gupta").

(note: New limitation added to claims 12-14 per amendment dated 02/21/06 are not considered due to the problem discussed above)

Regarding **claim 12**, in accordance with Gupta reference entirety, Gupta discloses a unit (Fig. 2) having ports (100, 102 and 104), interface units (114, 116 and 118) for maintenance and test functions (col. 3, line 67 to col. 4, line 1), and multiplexers (112 or Fig. 7) provide a bypass of a port to which an active communication unit is not coupled (col. 3, lines 64-67 and thereafter) *(note: also see Fig. 5 or 11 for connection detail)*.

Regarding **claim 13**, in addition to features recited in base claim 12 (see rationales discussed above), Gupta further discloses wherein each port transmits and receives control messages so as to determine the status of a communication unit to which the respective port is connected, the multiplexers being controlled by control logic (108) responsive to the control messages *(description of controlling circuitry and bypassing circuitry is discussed at col. 6, line 12 to col. 8, line 17 and thereafter)* *(note:*

also see Fig. 7 for connection detail wherein Gupta depicted control lines (to/from PPC 106 lines) are separated from data path (to/from ports B and C lines) or (control lines depicts as SANITY and SANITY1 connecting controller 108 to elements 724 and 728) separate from said data path (data lines depicts as 700, 702, 704, 706, 730, 732, and 738, 740)).

Regarding **claim 15**, in accordance with Gupta reference entirety, Gupta discloses a unit (Fig. 2) having ports (100, 102 and 104), interface units (114, 116 and 118) for maintenance and test functions (col. 3, line 67 to col. 4, line 1), and multiplexers (112 or Fig. 7) provide a bypass of a port to which an active communication unit is not coupled (col. 3, lines 64-67 and thereafter) (note: also see Fig. 5 or 11 for connection detail and also see Fig. 7 wherein Gupta depicted control lines (to/from PPC 106 lines) are separated from data path (to/from ports B and C lines)).

Regarding **claim 16**, in addition to features recited in base claim 15 (see rationales disclosed above), Gupta further discloses the multiplexers being controlled to bypass a port that an active communication unit is not connected (description of controlling circuitry and bypassing circuitry is discussed at col. 6, line 12 to col. 8, line 17 and thereafter).

Regarding **claim 19**, in accordance with Gupta reference entirety, Gupta discloses a unit (Fig. 2) having ports (100, 102 and 104), interface units (114, 116 and 118) for maintenance and test functions (col. 3, line 67 to col. 4, line 1), and multiplexers (112 or Fig. 7) provide a bypass of a port to which an active communication unit is not coupled (col. 3, lines 64-67 and thereafter) (note: also see Fig. 5 or 11 for connection

detail and also see Fig. 7 wherein Gupta depicted control lines (to/from PPC 106 lines) are separated from data path (to/from ports B and C lines)). Moreover, Gupta also shows control logic (106, 108 and 110) for controlling the unit to bypass the port in event of port failure (note: description of controlling circuitry and bypassing circuitry is discussed at col. 6, line 12 to col. 8, line 17 and thereafter).

Regarding **claim 20**, in addition to features recited in base claim 19 (see rationales discussed above), Gupta also discloses wherein the connecting units (Fig. 5) provide a data path for packets in each of two directions around the ring (see Fig. 5 for cascading connection with other ICUs).

Regarding **claims 23-26**, see figure 2 and the description at col. 3, line 53 to col. 4, line 2 for the details of ICU unit and figure 5 for detail connections of ICUs.

Regarding **claim 27**, in accordance with Gupta reference entirety, Gupta discloses a unit (Fig. 2) having ports (100, 102 and 104), interface units (114, 116 and 118) for maintenance and test functions (col. 3, line 67 to col. 4, line 1), and multiplexers (112 or Fig. 7) provide a bypass of a port to which an active communication unit is not coupled (col. 3, lines 64-67 and thereafter) (note: also see Fig. 5 or 11 for connection detail and also see Fig. 7 wherein Gupta depicted control lines (to/from PPC 106 lines) are separated from data path (to/from ports B and C lines)). Moreover, Gupta also shows control logic (106, 108 and 110) for controlling the unit to bypass the port in event of port failure (note: description of controlling circuitry and bypassing circuitry is discussed at col. 6, line 12 to col. 8, line 17 and thereafter).

Regarding **claim 28**, in addition to features recited in base claim 27 (see rationales discussed above), Gupta further show the multiplexer (112) for forwarding data to/from port and bypassing data to a port (*col. 3, lines 64-66 or col. 6, lines 27-33 and thereafter*).

Regarding **claim 29**, in addition to features recited in base claim 27 (see rationales discussed above), Gupta further discusses Ports B, C and A at col. 4, line 42 to col. 6, line 11 and thereafter.

Regarding **claim 30**, in addition to features recited in base claim 29 (see rationales discussed above), Gupta further shows in Fig. 5 or 11 connection details and also in Fig. 7 Gupta depicts control lines (to/from PPC 106 lines) are separated from data path (to/from ports B and C lines).

Regarding **claims 31-32**, in addition to features recited in base claim 29 (see rationales discussed above), Gupta also discusses the functions of controlling circuitry and bypassing circuitry at col. 6, line 12 to col. 8, line 17 and thereafter to include reroute data in event of failure or the controller being reprogrammed.

Regarding **claim 33**, in accordance with Gupta reference entirety, Gupta discloses a unit (Fig. 2) having ports (100, 102 and 104), interface units (114, 116 and 118) for maintenance and test functions (*col. 3, line 67 to col. 4, line 1*), and multiplexers (112 or Fig. 7) provide a bypass of a port to which an active communication unit is not coupled (*col. 3, lines 64-67 and thereafter*) (*note: also see Fig. 5 or 11 for connection detail and also see Fig. 7 wherein Gupta depicted control lines (to/from PPC 106 lines) are separated from data path (to/from ports B and C lines)*). Moreover, Gupta also

shows control logic (106, 108 and 110) for controlling the unit to bypass the port in event of port failure (note: *description of controlling circuitry and bypassing circuitry is discussed at col. 6, line 12 to col. 8, line 17 and thereafter*).

Regarding **claim 34**, in addition to features recited in base claim 33 (see rationales discussed above), Gupta (see Fig. 7) shows connection details of bypass circuitry to includes multiplexers (724 and 728) for bypassing a port in the event of port failure (*col. 6, line 12 to col. 8, line 17 and thereafter*).

Regarding **claim 35**, in addition to features recited in base claim 33 (see rationales discussed above), Gupta shows control messages in TABLE I at col. 7, lines 57-64.

Regarding **claim 38**, in accordance with Gupta reference entirety, Gupta discloses a unit (Fig. 2) having ports (100, 102 and 104), interface units (114, 116 and 118) for maintenance and test functions (*col. 3, line 67 to col. 4, line 1*), and multiplexers (112 or Fig. 7) provide a bypass of a port to which an active communication unit is not coupled (*col. 3, lines 64-67 and thereafter*) (*note: also see Fig. 5 or 11 for connection detail and also see Fig. 7 wherein Gupta depicted control lines (to/from PPC 106 lines) are separated from data path (to/from ports B and C lines)*). Moreover, Gupta also shows control logic (106, 108 and 110) for controlling the unit to bypass the port in event of port failure (note: *description of controlling circuitry and bypassing circuitry is discussed at col. 6, line 12 to col. 8, line 17 and thereafter*).

Regarding **claim 39**, in addition to features recited in base claim 38 (see rationales discussed above), Gupta shows control messages in TABLE I at col. 7, lines 57-64.

Allowable Subject Matter

5. Claims 10-11 are allowed.

Response to Arguments

6. Applicants' arguments filed 02/21/06 have been fully considered but they are not persuasive. Applicants' arguments will be addressed hereinbelow in the order in which they appear in the response filed 02/21/06.

In the Remarks of the outstanding response, on page 13, pertaining Examiner's objection to the claim language of "adapted for" Applicants refuse to comply. As stated clearly in the Office Action, the term "adapted for" has a tendency to make to subsequent limitation optional. See *MPEP* § 2111.04 [R-3]. Thus, the objection is maintained.

Pertaining the rejection of claims 12-13, 15-16, 19-20, 23-25 and 38-38 under 35 U.S.C. § 102 being anticipated by Gupta, Applicants allege the Examiner's interpretation of the Gupta's teaching against the broadly claimed invention is erroneous. Specifically on page 15 of the outstanding response, Applicants argue "*Claim 12 has been amended to put this issue beyond any doubt. In particular claim 12 states (inter alia) that the multiplexers **which provide** (sic) a data path for packets from*

*each of the said ports to either of the others and are responsive to point-to-point control messages separate from said data packet **and received from any network communication units coupled to said ports** to provide for bypassing of a port to which an active communication unit is not coupled. Gupta discloses no such control messages **not any control** (sic) of the bypass in response to such messages".*

In response Examiner respectfully disagrees for the following rationales.

Applicants' argument directs to limitation not support by the original specification (see above discussion pertaining 112, first paragraph rejections of claims 12-14).

Claim 12 recites such terms as "adapted for" and "which can provide" those make the following limitation optional. On the other hand, the Applicants craftily argue using a more definite language such as "which provide". Applicants' argument has been noted, but not persuasive. Examiner asserts, in the present condition, the Gupta reference, as clearly pointed out in the Office Action, still clearly anticipates the broadly claimed invention.

Pertaining the rejection of claim 13, Applicants argue "*Examiner has completely failed to point out where the controller or any other device within the ICU transmits and receives control message separate from the data packets from the ports or in any **away** (sic) determines the status of a communication unit to which the connector is connected. The controller 108 is not coupled in any way to the ports and plainly cannot respond to any control messages received at said ports, even if there were any such control messages in Gupta*".

In response Examiner again respectfully disagrees. As clearly pointed out in the Office Action, Gupta, in reference to Fig. 7 and the corresponding description shows and discloses each port (*Port A, Port B and Port C*) has control lines (*lines depicts as SANITY and SANITY1 connecting controller 108 to elements 724 and 728*) separate from said data path (*lines depicts as 700, 702, 704, 706, 730, 732, and 738, 740*) for transmitting and receiving said point-to-point control messages (*SANITY and SANITY2*) so as to determine the status of a communication unit to which the respective port is connected (*at col. 8, lines 20-45, Gupta also shows an external controller connected to controller 108 through control interface 114 to perform variety of function to include setting end user subrate, selecting particular application, directing a test sequence etc...*), the multiplexers being controlled by control logic responsive to said control messages (*col. 7, lines 10-14, Gupta also discloses controller 108 of each ICU in the cascade constantly performs certain background diagnostic tests and engages the bypass circuitry (multiplexers) when a fault condition is detected to decouple the data lines from the rest of the ICU*). Perhaps the Applicants fail to understand the Gupta reference or just argue for the sake of arguendo. Contradistinction to the Applicants' argument, the Gupta reference clearly anticipates the claimed invention in the present condition and the Office Action does clearly correspond the claimed limitations against that taught by Gupta.

Pertaining the rejection of claim 15, Applicants argue that "*Claim 15 requires, inter alia: "that each port of the connecting unit [has] first lines for forwarding and*

receiving data packets and second lines, separate from said first lines, for forwarding and receiving point-to-point message". No such lines are disclosed by Gupta".

In response Examiner again disagrees and asserts the Gupta reference, as clearly pointed out in the Office Action, does clearly anticipate the broadly claimed invention in the present condition. The claim language of claim 15 is so broad and a long run-on sentence. The specific claim language of the disputed limitation is *"each port of the connecting unit having first lines for forwarding and receiving data packets and second lines, separate from said first lines, for forwarding and receiving point-to-point messages"*. There is no telling whether the clause *"having first lines ... Messages"* modifies *"each port"* or *"connecting unit"*, let alone argue that the Gupta fails to disclose the limitation that Applicants deem to be novel and unobvious. Gupta, as discussed above, undoubtedly discloses control lines (*lines depicts as SANITY and SANITY1 connecting controller 108 to elements 724 and 728*) for receiving and forwarding control message (*SANITY and SANITY1*) separate from data path (*lines depicts as 700, 702, 704, 706, 730, 732, and 738, 740*). Applicants also argue the Gupta reference fails to show *"control logic under the control of said control messages, ... said control logic indicates that an active communication unit is not coupled to the third port"*. Examiner disagrees and asserts the Gupta reference, as clearly pointed out in the Office Action and henceforth reiterated, does indeed disclose the broadly claimed invention in a manner as recited. Let's revisit Gupta reference. At col. 7, lines 10-14, Gupta clearly discloses controller 108 of each ICU in the cascade constantly performs certain background diagnostic tests and engages the bypass circuitry (multiplexers) when a

fault condition is detected to decouple the data lines from the rest of the ICU. Once again, contradistinction to the Applicants' argument, the Gupta reference does clearly anticipate the claimed invention in the present condition.

As for the argument pertaining the rejection of claim 19, please see response discussed above.

Pertaining the rejection of claim 20, on page 18 of the response, Applicants allege the Gupta reference discloses only a branch, not a ring (i.e. a closed loop).

In response Examiner disagrees. In accordance with Fig. 5 and its corresponding description at col. 4, lines 54-64, Gupta clearly discloses ICUs are connected together through ports B and C in a cascade. Ports B and C of adjacent ICU's in the cascade are connected at the TTL level via the backplane of the line interface shelf. This is beyond of a doubt that the Gupta's ICUs are connected in a ring or a closed loop.

Pertaining the rejection of claim 24, Applicants argue the Gupta reference does not show or disclose "*the interface provides for the storage of a respective identification number*". This feature, as clearly pointed out in the Office Action, corresponds to EPROM memory 110 for storing instructions used by the processor 108 to program the PPC 106.

Pertaining the rejection of claim 25, Applicants argue the Gupta reference does not show or disclose "*said interface is a modular unit removable from the respective communication unit*". *The EPROM memory 110 as discussed above is inherently a modular or removable to allow the ICU operator easy access or replace it.*

Pertaining the rejection of claim 26, Applicants argue the Gupta reference does not show or disclose *"for connecting ... which co-operates with a signal state of said control messages to indicate which end of the cable is connected to a respective one of said first and second external ports"*. This feature is clearly depicted in Figure 5 where ICUs are connected in a cascade manner. Moreover, at col. 8, lines 20-45, Gupta also shows an external controller connected to controller 108 through control interface 114 to perform variety of function to include setting end user subrate, selecting particular application, directing a test sequence etc...), and at col. 7, lines 10-14, Gupta also discloses controller 108 of each ICU in the cascade constantly performs certain background diagnostic tests and engages the bypass circuitry (multiplexers) when a fault condition is detected to decouple the data lines from the rest of the ICU). Thus, Gupta does indeed disclose the broadly claimed invention in the present condition.

Pertaining the rejection of claim 27, Applicants argue the Gupta reference does not show or disclose *"three external ports ... being adapted for forwarding and receiving data packets and **for separately forward and receiving point-to-point control messages**"*. The bolded limitation is optional because of the term "adapted for". The Gupta ICU is very capable and much being "adapted for" in a programmable manner. However, taken the bolded limitation into fully consideration, the Gupta, as discussed above, does indeed disclose it.

Pertaining the rejection of claim 27, Applicants also argue the Gupta reference does not show or disclose *"control logic ... from that port"*. Gupta, as clearly pointed out in the Office Action, at col. 7, lines 9-14, discloses controller of each ICU in the

cascade constantly performs certain background diagnostic tests. When a fault condition (link status) is detected, the controller engages the bypass circuit (multiplexers), thereby decoupling the data lines from the rest of the ICU.

Pertaining the rejection of claim 28, Applicants also argue the Gupta reference does not show or disclose "one of said multiplexers for each port". Gupta, in reference to Fig. 5, depicts this limitation, one multiplexer for a port or one multiplexer associated with three ports or one multiplexer having physical connection with three ports or three multiplexers associated with three ports. This limitation can be clearly equated to corresponding to multiplexer 728 or 724 or 728 and 724 of Figure 7 associated with ports A, B and C.

Pertaining the rejection of claim 29, Applicants also argue the Gupta reference does not show or disclose "each [of the three ports] has lines for transmission and on (sic) and reception of the control messages separately from the data packets". Please the response discussed above pertaining "separate control lines".

Pertaining the rejection of claim 31, Applicants also argue the Gupta reference does not show or disclose "wherein the control ... by that port". To support the argument the Applicants boldly state "failure in Gupta is a failure of the connector, not the end stations to which it is connect". Examiner finds no specific language in the claim to exclude the Examiner's interpretation of the Gupta's teaching. Moreover, a careful review of the disputed claim Examiner finds no such feature in the claim. Perhaps Applicants refer to certain features that are disclosed in the present application but not recited in the reject claims in making the contention that the Gupta reference

fails to show certain feature of Applicants' invention. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The remaining arguments are related to the ones discussed above, please see Examiner's response discussed above.

Examiner believes an earnest attempt has been made in addressing all of the Applicants' arguments. Due to the arguments are not persuasive and the amendment fails to place the instant application in a favorable condition for allowance, the rejection is maintained.

Conclusion

7. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Duong whose telephone number is 571-272-3164. The examiner can normally be reached on 7:00AM-3:30PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar can be reached on 571-272-7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Frank Duong', with a stylized flourish at the end.

FRANK DUONG
PRIMARY EXAMINER

May 8, 2006